REMARKS

This application has been reviewed in light of the Office Action dated November 2, 2005. Claims 1-17, 51-58, and 72-101 are now pending in this application, with withdrawn Claims 18-50 and 59-71 having been canceled without prejudice or disclaimer of subject matter, and Claims 87-101 having been added. Claims 1, 11, 51, 72, 73, 76, 77, 82, 83, 84, and 85 have been amended to define still more clearly what Applicants regard as their invention, and Claim 75 has been amended to depend from Claim 74. Claims 1, 51, 72, 76, 77, 82, and 84 are in independent form. Favorable reconsideration is requested.

Objection Under 35 U.S.C. 132(a) and Rejection Under 35 U.S.C. § 112, first paragraph

The Amendment filed June 9, 2005 was objected to under 35 U.S.C. 132(a) for allegedly introducing new matter into the disclosure of the invention. The Office Action asserts that the alleged new matter is "the bi-directional multiplexing/demultiplexing device, and the multiplexer and demultiplexer embodied either as separate devices or a single device."

Claims 1-17 and 51-58 were rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action supports this rejection by stating:

> "The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant first claims a bi-directional multiplexing/demultiplexing device, then later amends the

specification to include the claimed bi-directional multiplexing/demultiplexing device. Having done so, the question is raised as to whether or not the applicant, at the time the application was filed, had possession of the claimed invention."

The foregoing objection and rejection are respectfully traversed for the following reasons. Initially, as pointed out in the Amendment filed on June 9, 2005, support for a bi-directional multiplexing/demultiplexing device *is* found in the specification as originally filed, at, without limitation, paragraphs 14 and 37, and also in original Claims 1 and 51. For example, lines 2-4 of original paragraph 14 describe "at least one multiplexer/demultiplexer (MUX/DEMUX) device that is bidirectionally coupled to an external communication node . . .", and original Claims 1 and 51 explicitly recited "at least one multiplexing/demultiplexing device bidirectionally coupled ...." The line bridging pages 2-3 of the Office Action also recognizes that "applicant first claim[ed] a bi-directional multiplexing/demultiplexing device...."

According to MPEP 2163.06(III), Rev. 2, May 2004, "[t]he claims as filed in the original specification are part of the disclosure and therefore, if an application as originally filed contains a claim disclosing material not disclosed in the remainder of the specification, the applicant may amend the specification to include the claimed subject matter." (Citation omitted).

Thus, it is clear that subject matter of a bidirectional multiplexing/demultiplexing device is fully supported by the application as originally filed in both the above-mentioned portions of the specification and claims, and therefore the amendment relating to that subject matter is not believed to constitute new matter. For the

same reasons, it is believed that the first paragraph of Section 112 has been fully complied with.

Moreover, lines 1-6 of paragraph 37 of the original application stated, in part, "the multiplexer 36 and demultiplexer 38 of OLT 32 may be embodied as a single multiplexer/demultiplexer (MUX/DEMUX), and the multiplexer 46 and demultiplexer 48 of OLT 34 also may be embodied as a single MUX/DEMUX, rather than as separate devices as depicted in Fig. 3." Accordingly, the original application *did* fully support that the multiplexer and demultiplexer may be embodied as either separate devices or a single device, and thus the amendment relating to that subject matter also did not introduce new matter.

For the foregoing reasons, it is believed that the objection under Section 132(a) and the rejection under Section 112, first paragraph, have been obviated, and thus their withdrawal is respectfully requested.

REJECTIONS UNDER 35 U.S.C. §§ 102(e) and 103(a)

Claims 1-4, 13, 14, 17, 51, 52, 56, and 72-85 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,477,288 (*Sato*). Claims 10-12, 54, 55, and 86 have been rejected under 35 U.S.C. 103(a) as being unpatentable over *Sato*. Claims 15, 16, 57 and 58 have been rejected under 35 U.S.C. 103(a) as being unpatentable over *Sato* in view of U.S. Patent No. 5,986,783 (*Sharma et al.*).

Claim 1 is directed to a communication network, including a plurality of

first communication paths, a plurality of second communication paths, and a plurality of nodes. Adjacent ones of the nodes are coupled together through first communication paths and second communication paths. Each node comprises a plurality of switches, at least one multiplexing/demultiplexing device, and at least one controller.

The plurality of switches includes a first switch and a second switch, each having at least one first terminal, at least one second terminal, at least one third terminal, and at least one fourth terminal. The first terminal and the second terminal of the first switch are coupled through first communication paths and second communication paths, respectively, to a first, adjacent one of the nodes. The first terminal and the second terminal of the second switch are coupled through other first communication paths and other second communication paths, respectively, to a second, adjacent one of the nodes. The third terminal of the first switch is coupled to the third terminal of the second switch through at least one third communication path.

The at least one multiplexing/demultiplexing device is bidirectionally coupled to each of an external communication node and the fourth terminal of each first and second switch. The at least one multiplexing/demultiplexing device forwards signals being communicated between the fourth terminals of the first and second switches, and forwards signals being communicated between the external communication node and the fourth terminal of respective ones of the first and second switches.

The at least one controller is coupled to the first and second switches, and is responsive to applied input information for controlling at least one of the first and second switches to cause that at least one switch to selectively couple at least one of (a) the first

and second adjacent nodes together by way of at least one of the first and second communication paths coupled to that at least one switch, and (b) the external communication node and at least one of the first and second, adjacent nodes by way of at least one of the first and second communication paths coupled to that at least one switch. Each first communication path is a working path and each second communication path is a protect path.

Notable features of Claim 1 are that the first switch is coupled through first communication paths and second communication paths, respectively, to a first, adjacent one of the nodes, and the second switch is coupled through other first communication paths and other second communication paths, respectively, to a second, adjacent one of the nodes. Also, each first communication path is a working path and each second communication path is a protect path.

The Office Action asserts that switches 13 and 14 of Fig. 5A of *Sato*, correspond to the first and second switches, respectively, of Claim 1. However, as can be appreciated in view of Fig. 5A and col. 14, lines 49-51 of *Sato*, switch 13 is connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7, which together form a pair "through which the optical signals are transmitted in the opposite directions...." Also, switch 14 is similarly connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7, where optical signals are transmitted in the opposite directions by virtue of the respective paths 5 and 7.

Nothing in either the foregoing portion of *Sato*, or anywhere else in that reference, is understood to teach or suggest a first switch coupled through first communication paths and second communication paths, respectively, to a first, adjacent one of the nodes, and the second switch coupled through other first communication paths and other second communication paths, respectively, to a second, adjacent one of the nodes, wherein each first communication path is a working path and each second communication path is a protect path, in the context of the communication network set forth in Claim 1. Therefore, that claim is believed to be clearly patentable over *Sato*.

Independent Claim 51 is a node claim having features similar in many relevant respects to those of Claim 1 emphasized above, and also is believed to be clearly patentable over *Sato* for the same reasons as those set forth above with respect to Claim 1.

Independent Claim 72, as amended, recites, in part, that at least one of the switches of at least one of the nodes is coupled to at least one of the switches of at least one other of the nodes through at least two working sub-paths and at least two protect sub-paths.

As pointed out above, in Fig. 5A of *Sato*, switch 13 is connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7, and the other switch 14 is connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7. Nothing has been found, or pointed out in *Sato* that would teach or suggest the foregoing features of Claim 72. Accordingly, that claim is believed to be clearly patentable over *Sato*.

Independent Claim 76 recites, in part, at least one external communication path including at least two working sub-paths and at least two protect sub-paths, and at least one switch of a line node coupled to the at least two working paths and the at least two protect paths. Independent Claim 77 recites, in part, that the communication paths include at least two working sub-paths and at least two protect sub-paths, and at least one of the switches of the least one node is coupled to at least one of the switches of at least one other of the nodes through the at least two working sub-paths and the at least two protect sub-paths.

Again, as pointed out above, each switch 13 and 14 depicted in Fig. 5A of *Sato* is connected to only a single working fiber and only a single protect fiber. Nothing has been found, or pointed out in *Sato* that would teach or suggest the foregoing features of Claims 76 and 77. Therefore, Claims 76 and 77 are believed to be clearly patentable over *Sato* as well.

Independent Claims 82 and 84 recite features that are similar in many relevant respects to those of Claim 77 emphasized above, and also are believed to be clearly patentable over *Sato* for the same reasons as those set forth above with respect to Claim 77.

A review of *Sharma et al.* has not revealed anything which is understood to remedy the above-noted deficiencies of *Sato* against the independent claims herein. Accordingly, those claims are believed to be patentable over both of those references.

The other pending claims in this application are each dependent from one or another of the non-withdrawn independent claims discussed above and also are believed to

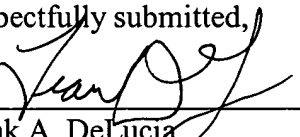
be patentable over the art relied on in the Office Action for the same reasons as are those independent claims. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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